

# PATENT ABSTRACTS OF JAPAN

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## (54) PRODUCTION OF ORIENTATION FILM FOR LIQUID CRYSTAL

### (57)Abstract:

**PURPOSE:** To obtain a resin film for the orientation of liquid crystal molecules by irradiating the surface of a substrate or a resin utilizing primarily  $\alpha$ -rays, namely atomic nuclei of He, and changing thus the surface of the substrate or the resin.

**CONSTITUTION:**  $\alpha$ -Rays, namely atomic nuclei of He, from an  $\alpha$ -ray source which primarily undergoes the  $\alpha$ -decay are used. In some cases, an angle of incidence to the substrate surface or the resin film surface on the substrate is restricted with a metallic slit. Thus, fine unevennesses are formed on the surface of the substrate or the resin, and liquid crystals are oriented along the fine unevennesses. By this method, liquid crystal molecules are erected from the surface by the adjustment of the angle of incidence of the  $\alpha$ -rays, and an orientation film for liquid crystal is obt.d.